REMARKS

The Office Action dated November 29, 2002 ("Office Action") has been carefully considered. Claim 9 has been amended. Accordingly, reconsideration of this application, as amended, and allowance are respectfully requested.

Claims 9 and 10 have been rejected under 35 U.S.C. § 102(b) as being anticipated by United States Patent No. 4,383,270 to Schelhorn ("Schelhorn"). The Examiner cites the semiconductor carrier illustrated in Figure 2 of Schelhorn as anticipating claims 9 and 10. This rejection is respectfully traversed.

As amended, independent claim 9 recites "a supplemental substrate being attached to said second side of said metal heat sink plate, wherein said metal heat sink plate is between said primary substrate and said supplemental substrate . . . ." This is supported, for example, by the disclosure on page 2, lines 24 - 26 and on page 4, lines 1-6 of the specification as originally filed.

In contrast, Figure 2 of Schelhorn discloses a semiconductor chip carrier having a porcelain coated steel substrate consisting of three layers 14, 20, and 18 and a heat sink block 24, not a plate, attached to one end of the substrate. (*See* Schelhorn, Figure 2 and column 2, lines 3-12.) Thus, Schelhorn does not show or suggest the structure recited in claim 9 wherein a heat sink plate is located between the primary substrate and the supplemental substrate. Accordingly, allowance of claim 9 over Schelhorn is respectfully requested.

Claim 10 depends from claim 9, which is allowable over Schelhorn. Accordingly, claim 10 should also be allowed over Schelhorn and its allowance is respectfully requested.

Claims 9-15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over United States Patent No. 6,288,900 to Johnson *et al.* ("Johnson") in view of United States Patent No. 6,294,831 to Shishido *et al.* ("Shishido"). This rejection is respectfully traversed.

As the Examiner points out in the Office Action, Johnson discloses in Figure 6 a primary substrate 12 and a metal heat sink plate 28 whose thermal coefficient of expansion is substantially different from that of said primary substrate. (Office Action at page 3.) Another layer 29 of a different material is on top of a portion of plate 28. As the Examiner acknowledges, Johnson "does not disclose said supplemental substrate is constructed from a material having a substantially similar coefficient of thermal expansion as that of said primary substrate." To make up for this deficiency, the Examiner relies on Shishido et al which discloses in figure 2 "said supplemental substrate 30a constructed from a material

having a substantially similar coefficient of thermal expansion as that of said primary substrate 12." (Office Action at page 3.)

However, as emphasized by the Applicants in their response to the Office Action dated August 21, 2002, these references cannot be combined because Johnson and Shishido disclose incompatible structures. In Johnson, the primary substrate 12 and the heat sink plate 28 have substantially different thermal coefficients of expansion. Shishido, however, teaches away from such a structure because he discloses a semiconductor chip carrier whose components all have the same thermal coefficient of expansion. Specifically, Shishido discloses in Figure 2 a structure 30 (consisting of parts 30a and 30b) that has the same thermal coefficient of expansion as the primary substrate 12. (Shishido at Col. 4, lines 1-12.) Shishido does not show or suggest a metal heat sink plate or any other part of the chip carrier that has a thermal coefficient of expansion that is substantially different from that of the primary substrate 12. Thus, Johnson and Shishido disclose incompatible structures and they cannot be combined. Accordingly, independent claim 9 and claims 10-15 depending therefrom are allowable over Johnson and Shishido, whether taken singly or in combination. Withdrawal of the rejection of these claims and their allowance are respectfully requested.

Claim 20 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Johnson and Shishido as applied to claim 1 [sic, 9] above, and further in view of United States Patent No. 5,491,362 to Hamzehdoost *et al.* ("Hamzehdoost"). This rejection is respectfully traversed.

Claim 20 depends from claim 9. Claim 9 is allowable over Johnson and Shishido, as discussed above, and Hamzehdoost does not remedy the deficiencies of Johnson and Shishido. Accordingly, claim 20 is allowable over the cited references, whether taken singly or in combination. Withdrawal of this rejection and allowance of claim 20 are respectfully requested.

For the above reasons, withdrawal of the rejection of claims 9-15 and 20 over the prior art and allowance of the pending claims are respectfully requested. Should the Examiner not agree that all claims are allowable, a personal or telephone interview is respectfully requested to discuss any remaining issues.

Please charge any fees due for the submission of this response to Pennie & Edmonds LLP deposit account No. 16-1150.

Respectfully submitted,

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APPENDIX A

Changes to the Claims

The rewritten claims were revised as follows:

9. (Twice Amended) A semiconductor chip carrier comprising:

a primary substrate;

a metal heat sink plate, whose thermal coefficient of expansion is substantially different from that of said primary substrate, having a first side and an opposing second side where said primary substrate is attached to said first side;

a supplemental substrate being attached to said second side of said metal heat sink plate, wherein said metal heat sink plate is between said primary substrate and said supplemental substrate; and

said supplemental substrate is constructed from a material having a substantially similar coefficient of thermal expansion as that of said primary substrate so that the presence of the supplemental substrate prevents the semiconductor chip carrier from warping.